UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAR 2 7 2013

REPLY TO THE ATTENTION OF:

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

David E. Long
Environmental Manager
Sterling Steel Company, LLC
101 Avenue K
Sterling, Illinois 61081

Re: Sterling Steel Company, LLC Notice of Violation

Dear Mr. Long:

This is to advise you that the U.S. Environmental Protection Agency has determined that the Sterling Steel Company, LLC (Sterling Steel or Facility) at 101 Avenue K in Sterling, Illinois is in violation of the Clean Air Act (CAA), 42 U.S.C. § 7401 et seq. and the associated state or local pollution control requirements. We are issuing a Notice of Violation and Finding of Violation (NOV/FOV) to you for these violations.

The CAA requires the development of National Ambient Air Quality Standards to protect public health and welfare. To attain and maintain these standards, each state is required to develop an implementation plan. Illinois's State Implementation Plan (SIP) requires you to take reasonably available measures to prevent emissions of criteria air pollutants, including particulate matter (PM) at your facility. The purpose of the criteria air pollutant limits is to help protect the public from unhealthy exposures. Particle pollution - especially fine particles - contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. These health problems include nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. PM exposure can cause premature death in individuals with heart or lung disease.

EPA finds that at the Facility there are violations of the following:

1. Construction Permit/Illinois SIP requirements of the CAA.

2. Prevention of Significant Deterioration of Air Quality permit requirements for areas in attainment of National Ambient Air Quality Standards.

3. The Title V Operating Permit requirements of the CAA.

We are offering you the opportunity to request a conference with us about the violations alleged in the NOV/FOV. If you would like a conference you should request it within 10 days following receipt of this Notice, and the conference should be held within 30 days following receipt of this Notice. This conference will provide you a chance to present information on the identified violations, any efforts you have taken to comply and the steps you will take to prevent future violations. Please plan for your Facility's technical and management personnel to take part in these discussions. You may have an attorney represent you at this conference.

The EPA contact in this matter is Dakota Prentice. You may contact Mr. Prentice at (312) 886-6761 or prentice.dakota@epa.gov if you wish to request a conference. EPA hopes that this NOV/FOV will encourage Sterling Steel's compliance with the requirements of the CAA.

Sincerely,

George T. Czerniak
Director
Air and Radiation Division

Enclosure

cc: Ray Pilapil
Manager
Bureau of Air, Compliance and Enforcement Section
Illinois Environmental Protection Agency

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF:	)	
	)	
Sterling Steel Company, LLC	)	**NOTICE OF VIOLATION and**
Sterling, Illinois	)	**FINDING OF VIOLATION**
	)	
	)	**EPA-5-13-IL-28**
Proceedings Pursuant to	)	
the Clean Air Act	)	
42 U.S.C. § 7401 *et seq.*	)	
61081		

NOTICE AND FINDING OF VIOLATION

The U.S. Environmental Protection Agency is issuing this Notice of Violation and Finding of Violation (NOV/FOV) to Sterling Steel Company, LLC (you or Sterling Steel) to notify you that we have found violations of the Clean Air Act, 42 U.S.C. §§ 7401-7671q (CAA), and the Illinois State Implementation Plan (SIP) at the Facility located at 101 Avenue K, Sterling, Illinois (Facility). Specifically, EPA finds that Sterling Steel has exceeded, since at least 2008, the federally enforceable annual particulate matter (PM) emission limitation in its Construction Permit and incorporated into its Title V Permits, for Arc Furnace No. 8. This PM emission limitation was established to ensure that the improvement to the affected arc furnace did not constitute a major modification subject to the federal rule for Prevention of Significant Deterioration (PSD) (synthetic minor limit). In addition, by exceeding the annual synthetic minor PM limit, Sterling Steel has caused a significant net emissions increase of PM. The relevant statutory and regulatory background, factual background, notice and finding of violations, and environmental impact of these violations are set forth in detail below.

This NOV is issued in accordance with Section 113(a)(1) and (a)(3) of the CAA, 42 U.S.C. § 7413(a)(1) and (a)(3), which authorize the Administrator to take certain enforcement actions after notifying a person that it is in violation of the CAA. The authority to issue this NOV/FOV has been delegated by the Administrator to the Regional Administrator and re-delegated to the Director of the Air and Radiation Division for Region 5 of the EPA.

Relevant Statutory and Regulatory Background

Prevention of Significant Deterioration of Air Quality (PSD) Requirements

1. PSD provisions of Part C of Title I of the Act require preconstruction review and permitting of stationary sources in attainment/unclassifiable areas. See 42 U.S.C. §§ 7470-7492. Pursuant to applicable regulations, if a major stationary source located in an attainment area is planning to make a major modification, then that source must obtain a PSD permit before beginning actual construction. See 40 C.F.R. § 52.21. To obtain this permit, the source must, among other things, undergo a technology review and apply Best

Available Control Technology (BACT); perform a source impact analysis; perform an air quality analysis and modeling; submit appropriate information; and conduct additional impact analyses as required.

2. Section 165(a) of the Act, 42 U.S.C. § 7475(a) prohibits the construction and subsequent operation of a "major emitting facility" in an area designated as attainment or unclassifiable unless a permit has been issued that comports with the requirements of Section 165 and the facility employs BACT for each pollutant subject to regulation under the Act that is emitted from the facility.

3. On June 19, 1978, EPA issued regulations implementing the federal PSD program at 40 C.F.R. § 52.21. See 43 Fed. Reg. 26388, 26403 (June 19, 1978) (federal PSD program). Since that time, the federal PSD regulations have been revised, with subsequent revisions incorporated under 40 C.F.R. § 52.21.

4. Sections 110(a) and 161 of the CAA, 42 U.S.C. §§ 7410(a) and 7471, require each state to adopt a state implementation plan (SIP) that contains emission limitations and such other measures as may be necessary to prevent significant deterioration of air quality in areas designated as attainment or unclassifiable.

5. The requirements of 40 C.F.R. § 52.21(j) through (r) apply to the construction of any new major stationary source or the major modification of any existing major stationary source, except as this section otherwise provides. 40 C.F.R. § 52.21(a)(2)(ii).

6. 40 C.F.R. § 52.21(r)(1) states that any owner or operator who constructs or operates a source or modification not in accordance with the application submitted pursuant to this section or with the terms of any approval to construct, or any owner or operator of a source or modification subject to this section who commences construction after the effective date of these regulations without applying for and receiving approval hereunder, shall be subject to appropriate enforcement action.

7. "Major Stationary Source" for the purpose of PSD means any stationary source which emits, or has the potential to emit, 100 tons per year or more of a regulated NSR pollutant. 40 C.F.R. § 52.21(b)(1)(i)(b).

8. "Major modification" means any physical change in or change in the method of operation of a major stationary source that would result in a significant emissions increase of a regulated NSR pollutant and a significant net emissions increase of that pollutant from the major stationary source. 40 C.F.R. § 52.21(b)(2)(i).

9. "Net emissions increase" means, with respect to any regulated NSR pollutant emitted by a major stationary source, the amount by which the sum of the following exceeds zero: (a) The increase in emissions from a particular physical change or change in the method of operation at a stationary source as calculated pursuant to 40 C.F.R. § 52.21(a)(2)(iv); and (b) Any other increases and decreases in actual emissions at the major stationary source that are contemporaneous with the particular change and are otherwise creditable. 40 C.F.R. § 52.21(b)(3)(i).

10. "Significant emissions increase" means, for a regulated NSR pollutant, an increase in emissions that is significant for that pollutant. 40 C.F.R. § 52.21(b)(40).

11. "Significant" means, in reference to a net emissions increase or the potential of a source to emit a rate of emissions that would equal or exceed any of the following rates: PM, 25 tons/yr; PM10, 15 tons/yr; and PM2.5, 10 tons/yr. 40 C.F.R § 52.21(b)(23)(i).

Illinois Environmental Protection Agency Construction Permits

12. Under 40 C.F.R. § 52.23, any permit limitation or condition contained within a permit issued under an EPA-approved program that is incorporated in a SIP, is a requirement of the SIP, and is federally enforceable under Section 113, 42 U.S.C. § 7413.

13. EPA promulgated approval of 35 Illinois Administrative Code (IAC) Part 201, "Permits and General Conditions," as part of the federally enforceable SIP for the State of Illinois on May 31, 1972. See 37 Fed. Reg. 10862. Since then, EPA has approved several revisions of 35 IAC Part 201 into the federally enforceable SIP.

Title V Requirements

14. Title V of the CAA, 42 U.S.C. §§ 7661-7661f, established an operating permit program for major sources of air pollution. Section 502(d) of the CAA, 42 U.S.C. § 7661a(d), provides that each state must submit to the EPA a permit program meeting the requirements of Title V.

15. Section 503 of the CAA, 42 U.S.C. § 7661c(a), requires that each Title V permit include enforceable emission limitations and standards, a schedule of compliance, and other conditions necessary to assume compliance with applicable requirements, including those contained in a state implementation plan.

16. 40 C.F.R. § 70.6(b)(1) provides that Title V permits are federally enforceable and that all terms and conditions in a Title V permit are enforceable by the EPA.

Relevant Factual Background

17. Sterling Steel owns and operates a steel mill facility located at 101 Avenue K, Sterling, Illinois.

18. Northwestern Steel and Wire Company (NSWC) owned and operated the stationary steel mill facility until May 2001, when the company filed for bankruptcy and ceased production.

19. Sterling Steel acquired certain assets of NSWC in May 2002 and began production shortly thereafter at the Facility.

20. Sterling Steel's Sterling Plant is located in Whiteside County, Illinois, which at all times relevant to this NOV/FOV was classified as attainment for PM and PM10.

21. Sterling Steel's Sterling Plant is a "major stationary source," as that term is defined at 40 C.F.R. § 70.2 and 40 C.F.R. § 52.21(b)(1)(i)(b), because it emits, or has the potential to emit, several regulated NSR pollutants in excess of 100 tons per year.

22. Illinois Environmental Protection Agency (IEPA) operates an ambient air monitor in Sterling, Illinois to determine the impact of Sterling Steel's air emissions on ambient air quality.

23. The IEPA ambient air monitor is intended to determine compliance with the lead National Ambient Air Quality Standard, but also provides concentrations of other metals, including manganese.

24. Manganese concentrations at the ambient air monitor have been observed at concentrations exceeding the Reference Concentration for Chronic Inhalation Exposure.

Ventilation Studies

25. In 1997, Goodfellow Consultants Texas Inc. (GCTI) performed a ventilation study at the Sterling Steel facility for the purpose of determining the effect of various canopy hood modifications at EAF No. 8 on capture efficiency from this emission unit.

26. The results of the ventilation study were provided in a report entitled EAF Meltshop Emission Control Study, dated January 14, 1997 (1997 Ventilation Study).

27. The 1997 Ventilation Study stated that the existing system (prior to canopy hood modification) reached 70 -75% capture efficiency during peak gas conditions.

28. In a Computational Fluid Dynamic Modeling (CFDM) performed in the 1997 Ventilation Study, GCTI compared three proposed canopy hood modifications (Schemes A, B, and C). The goal of the modeling was to estimate capture efficiencies during charging, melting, and tapping for each of the three canopy hood alternatives.

29. The 1997 Ventilation Study Section 3.1 summarized the maximum predicted capture efficiency for canopy hood Scheme B. The efficiencies were: 90% during charging, 68% during tapping, and 83% during melting. The CFDM assumed a maximum airflow of 1,000,000 actual cubic feet per minute (acfm) during charging and tapping, and 500,000 acfm during melting.

30. A letter from Ross & Hardies to EPA, dated December 16, 1996, stated that the Facility had installed canopy hood Option B (Scheme B).

Construction Permit - Issued October 19, 2000

31. In 2000, NSWC applied for a construction permit to make improvements to electric arc furnace (EAF) No. 8 and associated baghouse including changes to the furnace enclosure, features for carbon monoxide (CO) combustion, gas cooling, and expansion of the baghouse, in conjunction with replacement of the furnace shell and roof and the permanent shutdown of EAF No. 6.

32. The IEPA issued a Construction Permit for Arc Furnace 8 (EAF No. 8), Application No.: 00020018 (Construction Permit), to the Facility (listed as NSWC) on October 19, 2000.

33. Construction Permit Condition 1.7.a states that PM emissions from EAF No. 8 shall not exceed 234.3 tons/year.

34. The PSD netting exercise included in Attachment 1 of the Construction Permit stated the Net Emissions Change due to the modifications, as described in the Construction Permit, would result in a reduction of 30.4 tons of PM emissions.

35. Construction Permit Condition 1.5.a. states, "This permit is issued based on the improvements to the affected arc furnace not constituting a major modification subject to the federal rule for Prevention of Significant Deterioration (PSD) 40 CFR 52.21."

Title V Permit - Issued September 10, 2003

36. The IEPA issued a Clean Air Act Permit Program Permit, Application (CAAPP) No.: 96010019 (2003 Title V Permit), to the Facility on September 10, 2003.

37. Condition 5.1.1. of the 2003 Title V Permit states that the permit is issued based on the source requiring a CAAPP Permit as a major source of PM, nitrogen oxides (NOx),sulfur dioxide (SO_2), and volatile organic material (VOM) emissions.

38. Condition 7.1.6.b. of the 2003 Title V Permit stated that the PM emission limit for Arc Furnace #7 and Arc Furnace #8 (the two furnaces are identified as Emission Unit 01) is 234.3 tons/year. This condition also states, "The above limitations were established in Permit 00020018, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21."

Title V Permit Renewal Application

39. Sterling Steel submitted a Title V Permit Renewal Application to IEPA, in November 2007.

40. The Title V Permit Renewal Application requests renewal of a list of emission sources that excludes EAF No. 7 (page 2 of Application) and redefines EAF #8 as Emission Unit 01 (page 14 of Application). The Title V Permit Renewal Application states that EAF No. 8 (page 43 of Application) and "baghouse for electric arc furnaces" (page 56 of Application) have not been modified since January 2000.

41. The Title V Permit Renewal Application states that for PM emissions generated at EAF No. 8, the actual capture system efficiency is 99.75% and control equipment efficiency is 99.75% for an actual overall reduction efficiency of 99.5% (page 64 of Application).

Performance Test

42. In March 2008, ARI Environmental Inc, conducted a performance test at EAF No. 8 (Emission Unit 01) at the Facility and summarized the results of this test in a report (March 2008 Performance Test).

43. The March 2008 Performance Test identified an average emission rate for PM of 15.654 lb/hr from the EAF baghouse.

44. The average volumetric flow at the baghouse controlling emissions from EAF No. 8 was 988,654 acfm during the March 2008 Performance Test.

Title V Permit - Issued February 1, 2013

45. The IEPA issued a CAAPP Permit, Application No.: 96010019 (2013 Title V Permit), to the Facility on February 1, 2013.

46. Condition 4.1.2.b.i.E. of the 2013 Title V Permit stated that the PM emission limit for EAF #8 is 234.3 tons/year.

EPA Clean Air Act Inspection

47. On February 17, 2013, EPA Inspectors observed operations at the Facility during operation of EAF No. 8 (February 2013 Inspection).

48. During the February 2013 Inspection, EPA inspectors observed smoke exiting the melt shop at multiple locations of the building. These visible emissions were observed at various times during the inspection.

Violations

49. Since approximately 2008, Sterling Steel has exceeded the PM allowable annual emission limit, 234.3 tons/year, in the Construction Permit and Title V permits, in violation of Section 110 of the CAA, 42 U.S.C. § 7410, as evidenced by the combination of the PM emissions identified in the March 2008 Performance Test, the baghouse control efficiency stated in the Title V Renewal Application, and the maximum capture efficiencies identified in the 1997 Ventilation Study.

50. Since approximately 2008, Sterling Steel's operation of EAF No. 8 (EU 01) has resulted in a significant net emissions increase of PM in violation of Section 165 of the CAA, 42 U.S.C. § 7475, and 40 C.F.R. § 52.21, as evidenced by the PM emissions identified in the March 2008 Performance Test, the baghouse control efficiency stated in the Title V Renewal Application, and the maximum capture efficiencies identified in the 1997 Ventilation Study.

Environmental Impact of Violations

51. These violations have caused excess emissions of PM and manganese.

a. PM, especially fine particulates contains microscopic solids or liquid droplets, which can get deep into the lungs and cause serious health problems. PM exposure contributes to:

- irritation of the airways, coughing, and difficulty breathing;
- decreased lung function;
- aggravated asthma;
- chronic bronchitis;
- irregular heartbeat;
- nonfatal heart attacks; and
- premature death in people with heart or lung disease.

b. Manganese can cause harmful health effects through the impairment of human neurobehavioral function.

3/27/13
Date

George T. Czerniak
Director
Air and Radiation Division

CERTIFICATE OF MAILING

I, Loretta Shaffer, certify that I sent a Notice of Violation and Finding of Violation, No. EPA-5-13-IL-28, by Certified Mail, Return Receipt Requested, to:

Mr. David E. Long
Sterling Steel Company, LLC
101 Avenue K
Sterling, Illinois 61081

I also certify that I sent copies of the Notice of Violation and Finding of Violation by first-class mail to:

Ray Pilapil, Manager
Bureau of Air
Compliance and Enforcement Section
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Springfield, Illinois 62702

On the 28 day of March 2013.

Loretta Shaffer

Loretta Shaffer, APA
Planning and Administrative Section

CERTIFIED MAIL RECEIPT NUMBER: 7009 1680 0000 7674 1392